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EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,639

Applicant(s)

DRAPPEL et al

Examiner

J. DOTE

Group Art Unit

1756

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 7/22/03
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-32 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 25-30 is/are allowed.
- ☒ Claim(s) 1-24, 31, 32 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

1. The examiner acknowledges the amendments to claims 1, 11, 17-20, 25, and 31, filed in Paper No. 5 on Jul. 22, 2003 (cert. mail. Jul. 18, 2003). Claims 1-32 are pending.

2. The objections to the specification set forth in the office action mailed on Mar. 21, 2003, Paper No. 4, paragraph 1, items (1) through (3), have been withdrawn in response to applicants' comments in Paper No. 5, page 18, lines 19-26, page 18, line 32, to page 19, line 7, and page 19, lines 11-14.

The objection to the specification set forth in Paper No. 4, paragraph 1, item (5), has been withdrawn in response to the amendments to the paragraphs beginning at page 3, line 32; page 4, line 12; page 6, line 7; page 7, line 19; page 10, line 1; page 13, line 1; page 20, line 20; page 21, lines 18 and 27; page 22, lines 1 and 16; page 23, lines 3, 16, and 33; page 24, lines 15 and 30; page 25, line 21; and page 26, line 24.

The objections to the specification set forth in Paper No. 4, paragraph 2, items (1), (3), and (4), have been withdrawn in response to the amendments to claims 1, 18, and 19, and in response to the amendment to the paragraph beginning at page 5, line 14, of the specification, filed in Paper No. 5.

The objections to the specification set forth in Paper No. 4, paragraph 2, items (2), (5), and (6), have been withdrawn, respectively, in response to applicants' comments in Paper No. 5,

page 20, lines 5-7; the amendment to the paragraph beginning at page 6, line 7, of the specification, filed in Paper No. 5; and in response to applicants' comments in Paper No. 5, page 21, lines 5-7.

The rejections of claims 2, 5, 8, 26, 29, and 31 under 35 U.S.C. 112, second paragraph, set forth in Paper No. 4, paragraph 5, have been withdrawn in response to applicants' comments in Paper No. 5, page 18, lines 19-26, page 18, line 32, to page 19, line 7, and page 19, lines 11-14.

The rejections of claims 17, 18, and 20 under 35 U.S.C. 112, second paragraph, set forth in Paper No. 4, paragraph 5, have been withdrawn in response to the amendments to claims 17, 18, and 20. (Contrary to applicants' comments in Paper No. 5, the paragraph bridging pages 21 and 22, the examiner did not reject claim 18 because all six named polymers refer to the same polymer, as asserted by applicants. The examiner merely noted, as repeated in paragraph 5, infra, the fact that the six names refer to the same polymer.

The rejections of claims 1-32 under 35 U.S.C. 112, second paragraph and first paragraph, set forth in Paper No. 4, paragraphs 6 and 8, respectively, have been withdrawn in response to the amendments to claims 1, 25, and 31.

The objection to claim 17 set forth in Paper No. 4, paragraph 9, has been withdrawn in response to the amendment to claim 17.

3. The disclosure is objected to because of the following informalities:

The specification at page 12, lines 7-18, discloses that the copolyester-polycarbonate resin can be one of the six listed polymers. However, all six listed polyester refer to the same polymer: they do not represent six different polymers. See ACS Registry No. 7159-80-7, which discloses that the six listed polymers in the specification are the common names for one particular polymer obtained from reacting the four compounds, phosgene (i.e., carbonic dichloride), 1,3-benzenedicarbonyl dichloride, 1,4-benzenedicarbonyl dichloride, and 4,4'-(1-methylethylidene)-bis[phenol].

Appropriate correction is required.

Applicants' arguments filed in Paper No. 5 have been fully considered but they are not persuasive.

Applicants assert that "[e]ach of the six descriptions of the copolyester-polycarbonate resin . . . is accurate under established organic chemistry nomenclature guidelines. Thus, one of ordinary skill in the art would readily understand the meaning of the six listed copolyester-polycarbonate resin."

Applicants' arguments are not persuasive. The objection does not state that the six names are improper. Rather, the objection is that the instant specification states that the copolyester-polycarbonate resin can be one of the six named polymers; but the six names all refer to the same single polymer. In other words, the instant specification implies that the six named polymers are different polymers when in fact they are the same single polymer. The paragraph beginning at page 12, line 7, of the instant specification states that "e]xamples of the copolyester-polycarbonate resin of the present invention are: . . ." (emphasis added). The paragraph does not state that the copolyester-polycarbonate resin may be represented by the polymer 1,3-benzenedicarbonyl dichloride, polymer with 1,4-benzenedicarbonyl dichloride, carbonic dichloride and 4,4'-(1-methylethylidene)bis[phenol], which is also known by any of the other five names.

4. The amendment filed in Paper No. 5 on Jul. 22, 2003, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

(1) In the amended paragraph beginning at page 5, line 14, of the specification, filed in Paper No. 5, the phrase "the imaging member has an adhesive strength between about 5.0 and about 30.0 g/cm, as measured using a reverse peel test" lacks antecedent basis in the originally filed specification.

Originally filed claim 18 recited that the "interfacial adhesive layer has an adhesive strength of between about 5.0 and about 30.0 g/cm, as measured using a reverse peel test." The originally filed specification in Table 1 at page 25 discloses only two values of the adhesion strength, 16.7 g/cm and 5.2 g/cm, as measured using a reverse peel test. The specification at page 25, lines 5-7, discloses that the reverse peel test measures the adhesive strength between the charge generation layer and the interfacial adhesive layer, not the broad "imaging member" recited in instant claim 18. There is no disclosure in the originally filed specification of an "imaging member" having the adhesive strength as now stated in the amended paragraph beginning at page 5, line 14, of the specification.

Applicants assert support for said amendment is found at page 24, line 27, to page 25, line 16, of the specification. However, the specification at page 24, line 27, to page 25, line 16, describes determining a 180-degree (reverse) peel test method to determine the adhesive strength between the charge generation layer and the interfacial adhesive layer. As

discussed above, there is no disclosure in the originally filed specification of an imaging member having an adhesive strength between about 5.0 and about 30 g/cm, as stated in the amended paragraph.

(2) In the amended paragraph beginning at page 5, line 14, of the specification, filed in Paper No. 5, the phrase "the adhesive strength between the charge transport layer and the charge generation layer of the imaging member is at least 100 g/cm, as measured using a 90-degree normal peel test" lacks antecedent basis in the originally filed specification.

Originally filed claim 19 recited that the "imaging member [not the adhesive strength between the charge generation layer and the charge transport layer] has an adhesive strength of at least 100 g/cm, as measured using a 90-degree normal peel test" (emphasis added). The originally filed specification reports only two values of the adhesive strength measured by the 90-degree normal peel test between the charge transport layer and the charge generation layer, namely >200 g/cm and 114.9 g/cm. The originally filed specification does not disclose that the adhesive strength between the charge transport layer and the charge generation layer is "at least 100 g/cm" as stated in the amended paragraph.

Applicants assert support for said amendment is found at page 25, lines 19-20, of the specification. However, the

specification at page 25, lines 19-20, merely discloses that the "90-degree normal peel test method measures the adhesive strength between the charge transport layer and the charge generation layer." As discussed above, there is no disclosure in the originally filed specification that the adhesive strength between the charge transport layer and the charge generation layer is "at least 100 g/cm," as stated in the amended paragraph.

Applicants is required to cancel the new matter in the reply to this Office Action.

5. The examiner notes that the instant specification defines the terms "imaging member" and "charge imaging layer," which are recited in the instant claims, to mean a photoconductor and a photogenerating layer, respectively. See page 5, lines 25-26, of the specification, which discloses that "[t]he terms 'imaging member' and 'photoconductor' are used interchangeably throughout the present application." Also see page 12, lines 27-29, of the specification, which discloses that "[a]s used herein, the term 'charge imaging layer' is used interchangeably with 'photogenerating layer.'"

The examiner also notes that all six named polymers listed in the Markush groups recited in claims 8 and 29 refer to the same polymer. See the discussion of ACS Registry No. 71519-80-7

in paragraph 3, supra. Thus, claims 8 and 29 only recite one particular copolyester-polycarbonate resin.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is indefinite in the phrase "said imaging member has an adhesive strength . . ." because it is not clear with respect to what the imaging member has an adhesive strength.

Claim 19 is indefinite in the phrase "the adhesive strength between the charge transport layer and the charge generation layer" (emphasis added) for lack of unambiguous antecedent basis in claim 1, from which claim 19 depends. Instant claim 1 recites that the imaging member comprises a charge imaging layer. Claim 1 does not recite the presence of a charge transport layer or a charge generation layer.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Instant claim 18 recites that the "imaging member has an adhesive strength between about 5.0 and about 30.0 g/cm, as measured using a reverse peel test." The originally filed specification does not provide an adequate written description of an imaging member that has the adhesive strength recited in instant claim 18 for the reasons discussed in paragraph 4, item (1), which are incorporated herein by reference.

(2) Instant claim 19 recites that the "adhesive strength between the charge transport layer and the charge generation layer of the imaging member is at least 100 g/cm, as measured using a 90-degree normal peel test." The originally filed specification does not provide an adequate written description of an adhesive strength between a charge transport layer and a

charge generation layer, as recited in instant claim 19, for the reasons discussed in paragraph 4, item (2), which are incorporated herein by reference.

10. Claim 5 is objected to because of the following informalities:

In claim 5, the misspelling "phthallic."

Appropriate correction is required.

Applicants' arguments filed in Paper No. 5 have been fully considered but they are not persuasive.

Applicants assert that "'phthallic' is a correct spelling of this term." However, the correct spelling is "phthalic."

See Grant & Hackh's Chemical Dictionary, page 448.

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 1-14, 16, 20-24, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,686,215 (Bergfjord) combined with US 4,595,602 (Schank), American Chemical Society (ACS) Registry No. 71519-80-7, US 5,084,526 (Harris).

Bergfjord discloses an electrophotographic imaging member comprising a flexible titanium coated polyester web, having thereon a charge blocking layer, an adhesive layer comprising a

polyester resin and a polyarylate resin, and a charge imaging layer. The charge imaging layer comprises a charge generation layer and a charge transport layer. The charge generation layer comprises a hydroxygallium phthalocyanine. See Example II at col. 18. The flexible titanium coated polyester web is within the structural limitations recited in instant claims 20 and 21. The charge imaging layer is within the compositional and structural limitations recited in instant claims 14, 16, and 22. Bergfjord further discloses that the imaging member may also comprise a backing layer applied to the substrate side opposite the charge imaging layer. The backing layer provides flatness and/or abrasion resistance. Col. 16, lines 34-36. In other words, the backing layer is an anti-curl backing layer, which is within the limitation recited in instant claim 23.

Bergfjord does not exemplify an imaging member comprising an interfacial adhesive layer as recited in instant claim 1. However, Bergfjord discloses that its imaging member may further comprise an overcoat layer to improve resistance to abrasion. Col. 16, lines 33-34.

Schank discloses an overcoat layer for electrophotographic imaging members, such as those similar to Bergfjord. Col. 8, lines 53-57, and col. 9, lines 4-9. The overcoat layer comprises a cross-linked siloxanol-colloidal silica hybrid material. Col. 2, lines 37-39, and col. 2, line 55, to col. 3, line 25.

The overcoat layer does not degrade images under cycling conditions over an extended period of time at elevated temperatures and high relative humidity. The overcoat layer provides excellent release and transfer of toner particles from the electrophotographic imaging member, and extends the useful life of the imaging member. Col. 2, lines 39-49. Schank further discloses that a primer layer may be applied to the imaging member to improve the adhesion of the cross-linked siloxanol-colloidal silica hybrid overcoat layer to the imaging member. Col. 8, lines 38-41. Schank discloses a primer layer comprising the poly(carbonate-co-ester) GE 3250 and a polymethylmethacrylate resin. The primer layer has a dry thickness of less than about 0.03-0.05 μm . See example IV at col. 15, lines 24-32. Schank's primer layer is an interfacial adhesive layer. The GE 3250 polymer is a copolymer of bisphenol A and a phthalic acid dichloride ester, which is within the compositional limitations recited in instant claims 2-4, 7, and 8. See ACS Registry No. 71519-80-7. The GE 3250 (i.e., LEXAN 3250) polymer is identified as having the structure disclosed in Harris, col. 17, lines 1-3, where the proportion of para to meta bonds in the diacid residuum was 73/27. The primer layer thickness of about 0.03-0.05 μm (i.e., 300 to 500 Ångstroms) is within the ranges recited in instant claims 11-13.

Schank does not disclose that the GE 3250 polymer comprises the number of polymer chains recited in instant claims 5, 6, 31, and 32. Nor does Schank disclose that the GE 3240 polymer has a weight average molecular weight as recited in instant claims 9 and 10. However, the instant specification at page 12, lines 1-6, discloses that a copolyester-polycarbonate polymer having a weight average molecular weight about 200,000 is identified in the CAS (i.e., ACS) Registry as number 71519-80-7. The molecular weight of about 200,000 is within the ranges recited in instant claims 9 and 10. Such a copolyester-polycarbonate polymer having a weight-average molecular weight of about 200,000 would comprise about 200 "polymer chains," (X•Y•Z•T). The number "about 200" is within the ranges recited in instant claims 5, 6, 31, and 32. (The number of polymer chains is determined by dividing 200,000 by the molecular weight of the polymer chain of the reaction product of compound X with compounds Y and Z and of compound X with compound T.) As discussed supra, the GE 3250 polymer is described in ACS Registry as number 71519-80-7. Thus, it is reasonable to presume that the GE 3250 polymer has the number of polymer chains recited in instant claims 5, 6, 31, and 32, and has a weight average molecular weight within the ranges recited in instant claims 9 and 10. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

It would have been obvious for a person having ordinary skill in the art to further coat the imaging member disclosed by Bergfjord with the primer layer comprising the poly(carbonate-co-ester) GE 3250 and the overcoat layer taught by Schank, because that person would have had a reasonable expectation of successfully obtaining an electrophotographic imaging member that provides stable images over an extended period of time at elevated temperatures and high relative humidity, and has a useful long life.

13. Claims 1-15, 17, 20-24, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,418,100 (Yu'100) combined with Schank, ACS Registry No. 71519-80-7, and Harris.

Yu'100 discloses an electrophotographic imaging member comprising a flexible titanium coated polyester web, having thereon a charge blocking layer, an adhesive layer comprising a cross-linked copolyester resin, and a charge imaging layer. The imaging member further comprises an anti-curl layer on the backside of the coated polyester web. The charge imaging layer comprises a charge generation layer and a charge transport layer. The charge generation layer comprises the charge generating compound benzimidazole perylene. See Example II at col. 16. The flexible titanium coated polyester web is within the structural limitations recited in instant claims 20 and 21. Yu'100 further

discloses that the charge generating compound may equally be a metal-free phthalocyanine or a vanadyl phthalocyanine. Col. 10, lines 1-5. Thus, the charge imaging layer is within the compositional and structural limitations recited in instant claims 14, 15, 17, and 22.

Yu'100 does not exemplify an imaging member comprising an interfacial adhesive layer as recited in instant claim 1. However, Yu'100 discloses that its imaging member may further comprise an overcoat layer. Col. 14, lines 1-10.

Schank discloses a particular overcoat layer for electrophotographic imaging members, such as those similar to Yu'100. Schank further discloses that a primer layer comprising the poly(carbonate-co-ester) GE 3250 and a polymethacrylate resin is used to improve the adhesion of the overcoat layer to the imaging member. The discussion of Schank, Harris, and ACS Registry number 71519-80-7 in paragraph 12 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to further coat the imaging member disclosed by Yu'100 with the primer layer comprising the poly(carbonate-co-ester) GE 3250 and the overcoat layer taught by Schank, because that person would have had a reasonable expectation of successfully obtaining an electrophotographic imaging member that provides stable images over an extended period of time at

elevated temperatures and high relative humidity, and has a useful long life.

14. Applicant's arguments filed in Paper No. 5 with respect the rejections set forth in paragraphs 12 and 13 above have been fully considered but they are not persuasive.

Applicants assert that none of the references teaches or suggests the interfacial adhesive layer of the present invention between the charge blocking layer and the charge generation layer of the imaging member. Applicants argue that Schank discloses applying the GE 3250 primer layer to the entire surface of an imaging member to enhance the adhesion of an overcoat layer to the imaging member.

However, instant claims 1 and 31 do not require that the interfacial layer be between the charge blocking layer and charge imaging layer. Rather, claims 1 and 31 merely recite that the imaging member comprises a charge blocking layer, an interfacial adhesive layer, and a charge imaging layer. Claims 1 and 31 do not limit the location of the interfacial adhesive layer.

Applicants cannot argue patentability based on limitations that are not present in the claims. The term "interfacial" is defined as "of or having to do with an interface." The term "interface" is defined as "a plane forming the common boundary between two parts of matter or space." See Webster's New World Dictionary,

third college edition, page 704. As discussed in paragraph 12 above, Schank teaches the presence of a primer layer comprising copolyester-polycarbonate GE 3250 between the surface of the imaging member and Schank's overcoat layer to improve the adhesion of its overcoat layer to the imaging member. Thus, Schank's primer layer is an interfacial adhesive layer between the overcoat layer and the imaging member. Accordingly, for the reasons discussed in the rejection, the teachings of either Bergfjord or Yu'100, each combined with Schank, ACS Registry No. 71519-80-7, and Harris, render obvious the instantly claimed imaging member.

15. Claims 1-10, 14, 17, 19-22, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 6-012552 (JP'552) combined with ACS Registry No. 71519-80-7, Harris, and US 5,660,961 (Yu'961). See the PTO English-language translation of JP'552 for cites.

JP'552 discloses an imaging plate comprising an electrically conductive aluminum plate and a charge imaging layer. The charge imaging layer comprises a charge generating layer comprising a non-metal phthalocyanine pigment, a charge transfer intermediate layer, and a charge transfer layer. The charge transfer intermediate layer comprises the commercially-available polyester carbonate polymer GE 3250. See the translation, page 5,

lines 1-3; page 12, lines 9, to page 13, line 17; and Tables 1 and 2 at page 15, second example A. JP'552's charge transfer intermediate layer improves the adhesive strength between the charge transport layer and the charge generation layer. See the translation, page 2, lines 21-22; page 4, lines 7-15; page 5, lines 13-21; and Table 3 at page 16, example A. The conductive aluminum plate is within the structural limitations recited in instant claims 20 and 21. The charge imaging layer is within the compositional and structural limitations recited in instant claims 14, 17, and 22. JP'552's charge transfer intermediate layer is an interfacial adhesive layer. The GE 3250 polymer is a copolymer of bisphenol A and a phthalic acid dichloride ester, which is within the compositional limitations recited in instant claims 1-4, 7, and 8. See ACS Registry No. 71519-80-7. The GE 3250 (i.e., LEXAN 3250) polymer is identified as having the structure disclosed in Harris, col. 17, lines 1-3, where the proportion of para to meta bonds in the diacid residuum was 73/27.

JP'552 does not disclose that the adhesive strength between the charge transfer layer the charge generation layer is at least 100 g/cm, as measured using a 90-degree normal peel test, as recited in instant claim 19. However, JP'552 discloses that when its charge transfer intermediate layer is present in the imaging member, the peel strength between its charge generation layer and

its charge transfer layer is "89" compared to a peeling strength of "0" for an imaging member not comprising its charge transfer intermediate layer. As discussed above, JP'552's charge transfer intermediate layer is within the compositional limitations recited in instant claim 1 from which claim 19 depends. Thus, it is reasonable to presume that JP'552's charge generation layer and charge transfer layer has an adhesive strength as recited in instant claim 19. The burden is on applicants to prove other. Fitzgerald, supra.

JP'552 does not disclose that the GE 3250 polymer comprises the number of polymer chains recited in instant claims 5, 6, 31, and 32. Nor does JP'552 disclose that the GE 3240 polymer has a weight average molecular weight as recited in instant claims 9 and 10. However, the instant specification at page 12, lines 1-6, discloses that a copolyester-polycarbonate polymer having a weight average molecular weight about 200,000 is identified in the CAS (i.e., ACS) Registry as number 71519-80-7. The molecular weight of about 200,000 is within the ranges recited instant claims 9 and 10. Such a copolyester-polycarbonate polymer having a weight-average molecular weight of about 200,000 would comprise about 200 "polymer chains," (X•Y•Z•T). The number "about 200" is within the range recited in instant claims 5, 6, 31, and 32. (The number of polymer chains is determined by dividing 200,000 by the molecular weight of the

polymer chain of the reaction product of compound X with compounds Y and Z and of compound X with compound T.) As discussed supra, the GE 3250 polymer is described in ACS Registry as number 71519-80-7. Thus, it is reasonable to presume that the GE 3250 polymer has the number of polymer chains recited in instant claims 5, 6, 31, and 32, and has a weight average molecular weight within the ranges recited in instant claims 9 and 10. The burden is on applicants to prove otherwise. Fitzgerald, supra.

JP'552 also does not disclose the use of a charge blocking layer.

Yu'961 discloses a particular charge blocking layer comprising solid finely divided light scattering silica particles having an average particle size of about 0.3 μm dispersed in a matrix comprising the reaction product of poly(2-hydroxyethyl-methacrylate) and an organosilane. Col. 7, lines 15-25, and example IV at col. 31. Yu'961 discloses that its charge blocking layer also has anti-reflection characteristics. The charge blocking layer eliminates interference fringes. Col. 6, lines 43-52. The charge blocking layer "suppresses the development of charge deficient spots associated with copy printout defects." Col. 7, lines 1-3. According to Yu'961, electrophotographic imaging members comprising its charge blocking layer have high quality imaging and printing

characteristics. Col. 7, lines 7-10. Yu'961 discloses that any suitable photogenerating layer may be applied to its charge blocking layer. Col. 10, lines 43-45.

It would have been obvious for a person having ordinary skill in the art to incorporate Yu'961's charge blocking layer in the imaging member disclosed by JP'552 because that person would have had a reasonable expectation of successfully obtaining an electrophotographic imaging member having the benefits disclosed by Yu'961.

Applicants' arguments filed in Paper No. 5 have been fully considered but they are not persuasive.

Applicants assert that none of the references teaches or suggests the interfacial adhesive layer of the present invention between the charge blocking layer and the charge generation layer of the imaging member. Applicants argue that although Yu'961 teaches an interfacial adhesive layer between the charge blocking layer and the charge generation layer, Yu'961 teaches away from the present invention because Yu'961 teaches using the "inferior DUPONT® 49,000-type resin as the adhesive layer."

However, instant claims 1 and 31 do not require that the interfacial layer be between the charge blocking layer and charge imaging layer. Rather, claims 1 and 31 merely recite that the imaging member comprises a charge blocking layer, an interfacial adhesive layer, and a charge imaging layer. Claims 1 and 31 do

not limit the location of the interfacial adhesive layer.

Applicants cannot argue patentability based on limitations that are not present in the claims. As discussed in above rejection, JP'552's charge transfer intermediate comprising GE 3250 is within the adhesive layer compositional limitation recited in the instant claims. JP'552 teaches that said layer improves the adhesion between a charge transfer layer and charge generation layer. Within the plain meaning of the word "interfacial," as described in paragraph 14, supra, JP'552's charge transfer immediate layer is an interfacial adhesive layer between the charge generation layer and the charge transfer layer.

Furthermore, applicants' arguments regarding Yu'100 are not persuasive, because JP'552 teaches an interfacial adhesive layer that is within the compositional limitations recited in the instant claims. Yu'961 is cited for its teachings of its charge blocking layer. In any event, Yu'961 does not teach away from using a copolyester-polycarbonate resin in its interfacial adhesive layer between its charge blocking layer and charge generation layer. Yu'961 discloses that "[a]ny suitable adhesive may be utilized." Col. 10, lines 19-20. A stated preference for some embodiment, absent a teaching of criticality, is not a teaching away. "[I]n a section 103 inquiry, 'the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including

unpreferred embodiments, must be considered.'" Merck & Co. Inc. v. Biocraft Laboratories Inc., 10 USPQ2d 1843, 1846 (Fed. Cir. 1989) (quoting In re Lamberti, 192 USPQ 278, 280 (CCPA 1976)). Accordingly, for the reasons discussed in the rejection, the combined teachings of JP'552, Yu'100, ACS Registry No. 71519-80-7, and Harris render obvious the instantly claimed imaging member.

16. Claims 25-30 are allowable over the prior art of record.

The prior art does not teach or suggest a method of making an imaging member comprising the step of forming an interfacial adhesive layer comprising a copolyester-polycarbonate resin between a charge blocking layer and a charge imaging layer as recited in instant claims 25-30.

17. This action was not made final because the PTO English-language translation of JP'552 has been cited for the first time in the rejection in paragraph 15, supra.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The central fax phone number is (703) 872-9306.

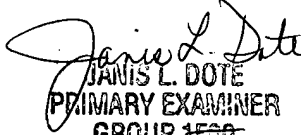
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Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Palestine Jenkins, whose telephone number is (703) 308-3521.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

JLD
October 3, 2003


JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1500
1700